

### ***Listing of the Claims***

This listing of claims will replace all prior versions, and listings of claims in the application.

1-63. (Canceled)

64. (New) An apparatus, comprising:

a carousel comprising a base;

a plurality of liquid conduits formed within the carousel;

a plurality of movable stations positioned above the carousel, wherein the movable stations perform one or more physical steps;

a plurality of reaction mounts removably insertable onto the plurality of liquid conduits, wherein each liquid conduit forms a chamber below a corresponding reaction mount;

wherein at least one of the plurality of reaction mounts includes a plurality of wells formed therein, the plurality of wells, configured to simultaneously communicate with the chamber formed by the liquid conduit;

wherein at least one of the plurality of reaction mounts is adapted to receive at least one of a plurality of reagents; and

wherein the plurality of wells are arranged in one or more rows, and wherein at least one of the one or more rows contains sixteen wells.

65. (New) The apparatus of claim 64, wherein at least one of the plurality of wells contains nucleic acid.

66. (New) The apparatus of claim 65, wherein the nucleic acid in at least one of the plurality of wells are 40 to 50 nucleotides in length.

67. (New) The apparatus of claim 65, wherein the nucleic acid is attached to a solid support.

68. (New) The apparatus of claim 67, wherein the solid support comprises glass.

69. (New) The apparatus of claim 67, wherein the solid support comprises an inert polymer.

70. (New) The apparatus of claim 64, further comprising:  
a plurality of exit ports protruding from the base of the carousel, wherein each exit port enables drainage from a corresponding liquid conduit.

71. (New) The apparatus of claim 64, further comprising:  
at least one engagement port positioned under the carousel, wherein the at least one engagement port is raised or lowered to engage or disengage with at least one of the plurality of exit ports, wherein the at least one engagement port is connected to a vacuum line adapted to drain liquid from the engaged exit port.

72. (New) The apparatus of claim 64, wherein the one or more physical steps performed by the movable stations are selected from the group consisting of fluid delivery, fluid drainage, temperature control, and optical analysis.

73. (New) The apparatus of claim 72, wherein at least one of the plurality of movable stations is a dispensing module adapted to deliver at least one of the plurality of reagents to at least one of the plurality of reaction mounts.

74. (New) The apparatus of claim 64, wherein at least one of the plurality of wells contains one or more of the following reagents: (a) acetonitrile, (b) trifluoroacetic acid, (c) piperidine, and (d) dimethylformamide.